REVIEW ITEM DISPOSITION SYSTEM

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ABSTRACT

The Review Item Disposition System (RIDS) simplifies the lengthy, complicated project review process by automating the collection and assessment of Review Item Dispositions (RIDs). RIDS allows System Review Board (SRB) members and project managers to track RIDs from initial entry to final acceptance by maintaining RID data on-line in a distributed database system. By automating the RIDs process there has been a reduction in review meetings and time previously spent reviewing and responding to RIDs. RIDS also encourages more participation in the review process by allowing outside users to easily enter new RIDs via the world wide web (WWW). The RIDS system would be useful to any system development project which has a need to collect and track change requests during requirements analysis, system design, or system implementation.

1. INTRODUCTION

A Review Item Disposition (RID) is a suggestion or comment that an interested party submits to a project administrator about some aspect of a given project, review, or document. Every RID at NASA must go through a series of reviews. Due to the formal structure of the RID process, a representative from the project is required to respond to each RID submitted. The Review Item Disposition System (RIDS) has been designed to simplify the RID process by automating the collection and assessment of RIDs.

Prior to RIDS, the process of reviewing a project RID was done on paper. By automating the review process there has been a reduction in coordination meetings and time previously spent reviewing and responding to RIDs. Throughout the entire process, RID data is maintained online in a distributed database system enabling the System Review Board (SRB) members and project managers to track the life cycle of a RID, from initiation to final disposition. RIDS encourages outside participation in the review process by enabling users to enter RIDs through the world wide web (WWW) and allowing participation from individuals, who may not otherwise contribute a RID to a project.

2. THE RID PROCESS

The RID process starts when someone writes a RID and submits it to a project. The project administrator receives the RID and assigns an initial disposition based on the content of the RID (Figure 1). If the administrator finds the RID unacceptable, it can be rejected and frozen. Otherwise the administrator

accepts the RID and forwards it to the project manager for comments. At this point, the RID has passed the first phase of acceptance, called the initial disposition.

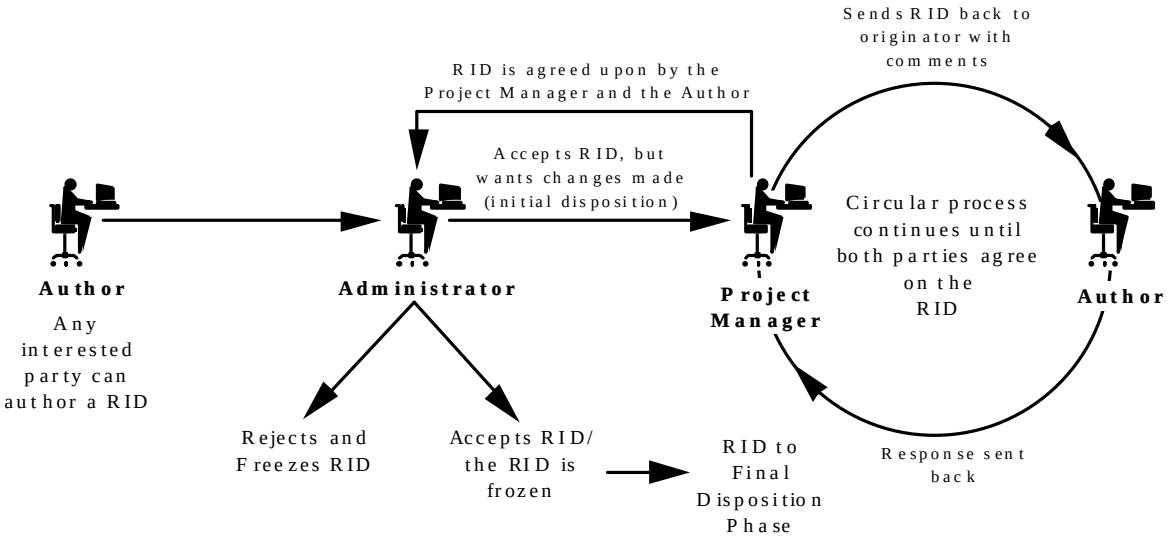

Figure 1. The Life Cycle of a RID.

After the RID has been accepted, the project manager must respond with comments and/or changes to the author (if any). The original RID author must assess the response from the project manager and agree or disagree with the response. If the author disagrees he can make an assessment of the project manager's response. This assessment is then sent to the project manager, who will in turn assess the author's response. The project manager and the author of the RID confer until an agreement has been reached on the RID. This can create a circular process where the project manager and the RID author respond to each other's comments. During this process RIDS records and archives all responses and assessments. The RID response/assessment cycle ends after the RID author agrees with the project manager's response. At this point the project administrator may close the RID by issuing a final disposition of "Closed".

3. USERS OF RIDS

The RIDS database is available to all mission personnel throughout the life cycle of the project, thus facilitating the communication of suggestions from interested parties to the project. Differing user privileges provide security for project data, while allowing a wide range of users to benefit from third-party comments. There are currently six types of users in RIDS:

- *Author/Guest* - Anyone may author a RID. Guests can enter new RIDs and view their own RIDs for projects that allow guest users. This encourages comments from those outside of the project review.

- *Board Member* - Members of the review board that are responsible for project reviews. They enter new RIDs and assess responses to their own RIDs.

- *Secretary* - Board members who have been granted the ability to enter RIDs for someone else. This allows second-hand entry from people who might not otherwise contribute to the project review process.

- *Project Manager* - Project managers respond to RIDs concerning their project. Project managers also have the same privileges as board members.

- *Administrator* - An administrator oversees a project, assigns users, and creates dispositions for the RIDs. Once a new RID is entered, the Administrator may accept, reject, or request changes to the RID. To ensure that only relevant items are included in the review, a RID must be accepted by the Administrator before it can be sent to the project manager and continue through the RID cycle. Administrators also close RIDs when they finish the cycle, ensuring that all issues have been resolved.

- *Database Owner* - The database owner creates new projects and users, in addition to assigning users to projects.

4. USING RIDS

The use of RIDS starts at the beginning of a project review, where the RIDS Database Owner enters the project information. The Database Owner also creates user privileges for regular users of the system, including SRB members and project managers. To use RIDS, a user logs in and, depending on the access rights, is given a choice of projects to view. Once logged into a specific mission database, the user can perform the following functions:

- View project details,
- View existing RIDs
- Create a new RID,
- Delete a RID,
- Search the RIDS database, or
- Print reports.

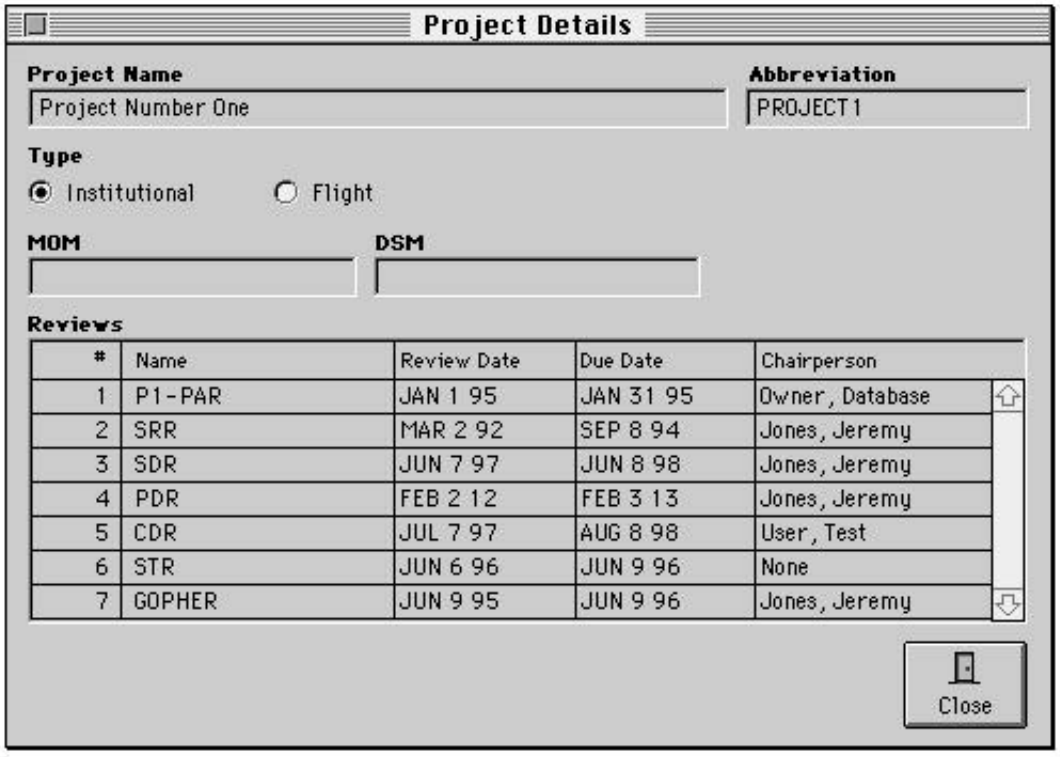

Figure 2. Project details window.

Details of a project, such as the full project name, project abbreviation, and the type of project (either institutional or flight), can be displayed through the project details window (Figure 2). The project details window ensures authors are creating RIDs for current reviews, by giving the author a loose set of dates for each review. The name of the chairperson responsible for each review is also listed in this window.

There are two ways to view existing RIDs. The first way is through the RIDs list window that allows the user to view the RIDs pertaining to a specific review or all the RIDs for a selected project (Figure 3, back window). RIDs displayed in this window can be sorted by the SRB number, RID ID, review, creation date, title, initial disposition, response, assessment, or final disposition.

The second way to view RIDs is individually from within the RID window (Figure 3, front window). In this window the complete text of the RID is shown. The history of the project manager's assessments and the author's responses can be seen by selecting the details button. Figure 4 shows a sample initial disposition, response, assessment, and final disposition.

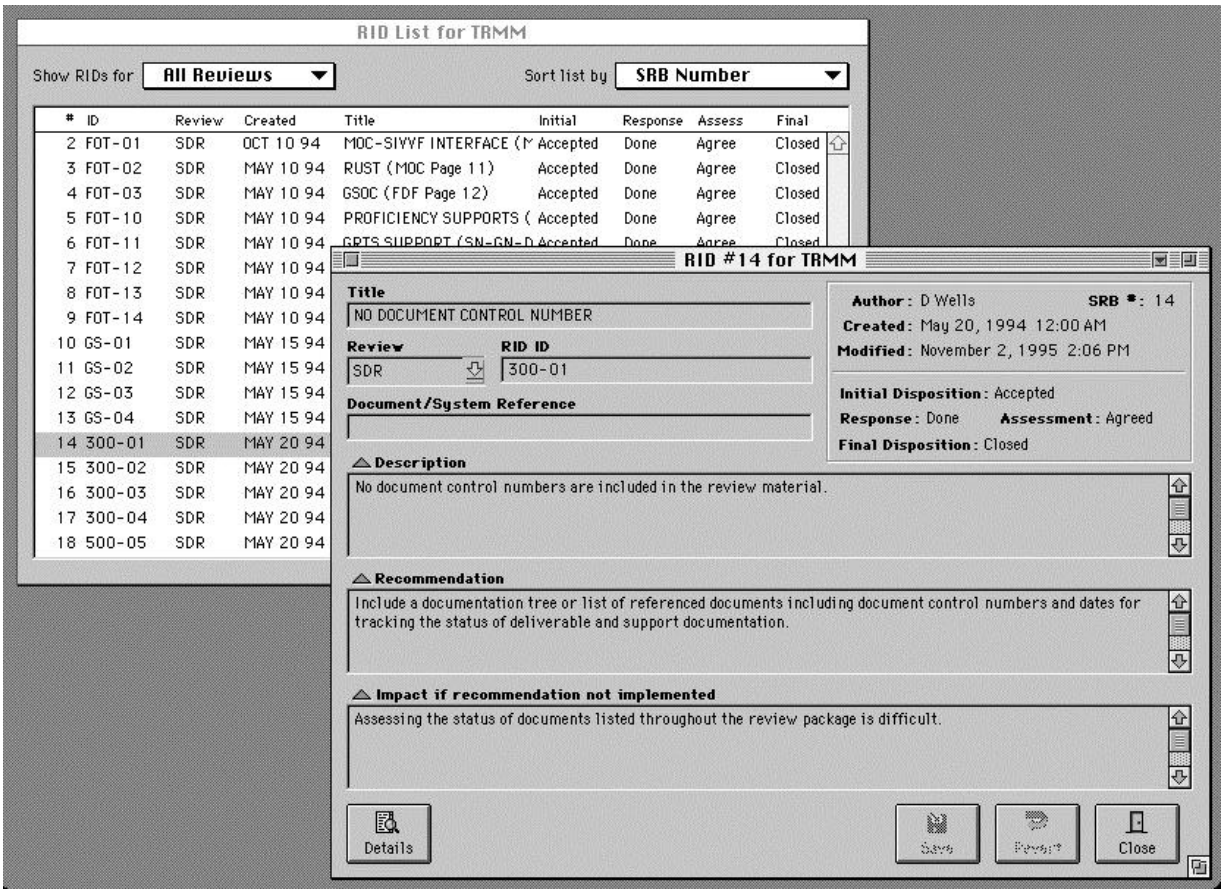

Figure 3: List and RID windows.

To create a new RID, the user must first be authorized to enter RIDs for each project. Authorized users can enter a title for the RID, a project review name, a reference to other documents supporting the RID, a description of the RID, recommendations as to what to do, and the impact if the recommendation is not implemented. RIDS automatically fills in the RID ID number, the author's name, and the date the RID was entered or modified. Once entered, a RID can only be deleted by the administrator.

RIDS users can search through the RID database, one project at a time. Criteria that can be searched for are: Review, Author, Initial Disposition, Response, Assessment or Final Disposition. The results of the search are displayed in the search window. Search criteria can be saved and reloaded at a later time.

Reports can be generated, regarding a specific RID or list of RIDs within a project. Reports can be viewed on the screen or sent directly to a printer. RIDS has the capability to produce five different reports:

1. Current RID list - a report of the active RIDs for a given project.
2. Forms for Selected RIDs - a report containing the data inside a selected RID, in addition to the author's name, physical and e-mail address, organization, and voice mail number.
3. Project RID List - a list containing information similar to the Current RID list report.
4. RIDs by Author Organization - a list of active RIDS organized by the author's organization.
5. Summary of Projects - a report containing a high-level summary of each project and the number of RIDs that have been accepted, responded to, and passed the final disposition phase for each project.

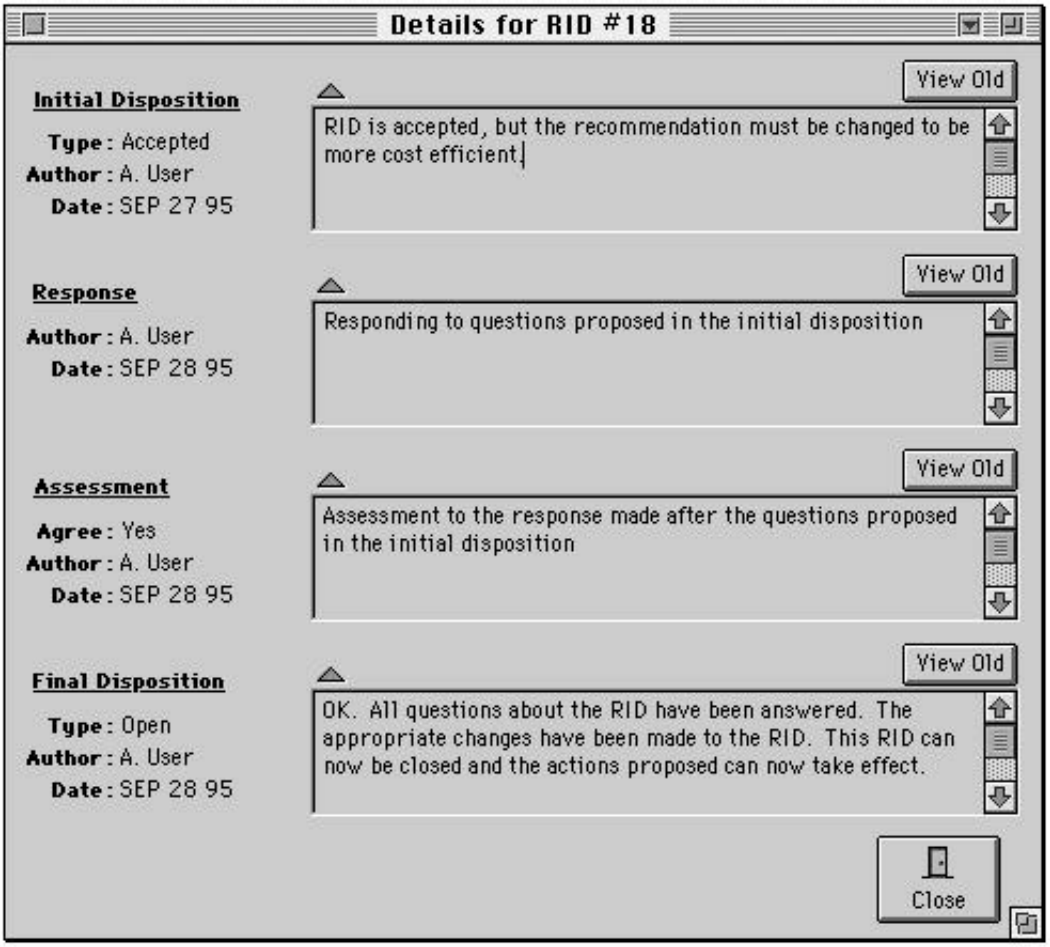

Figure 4: History Window - containing comments and responses.

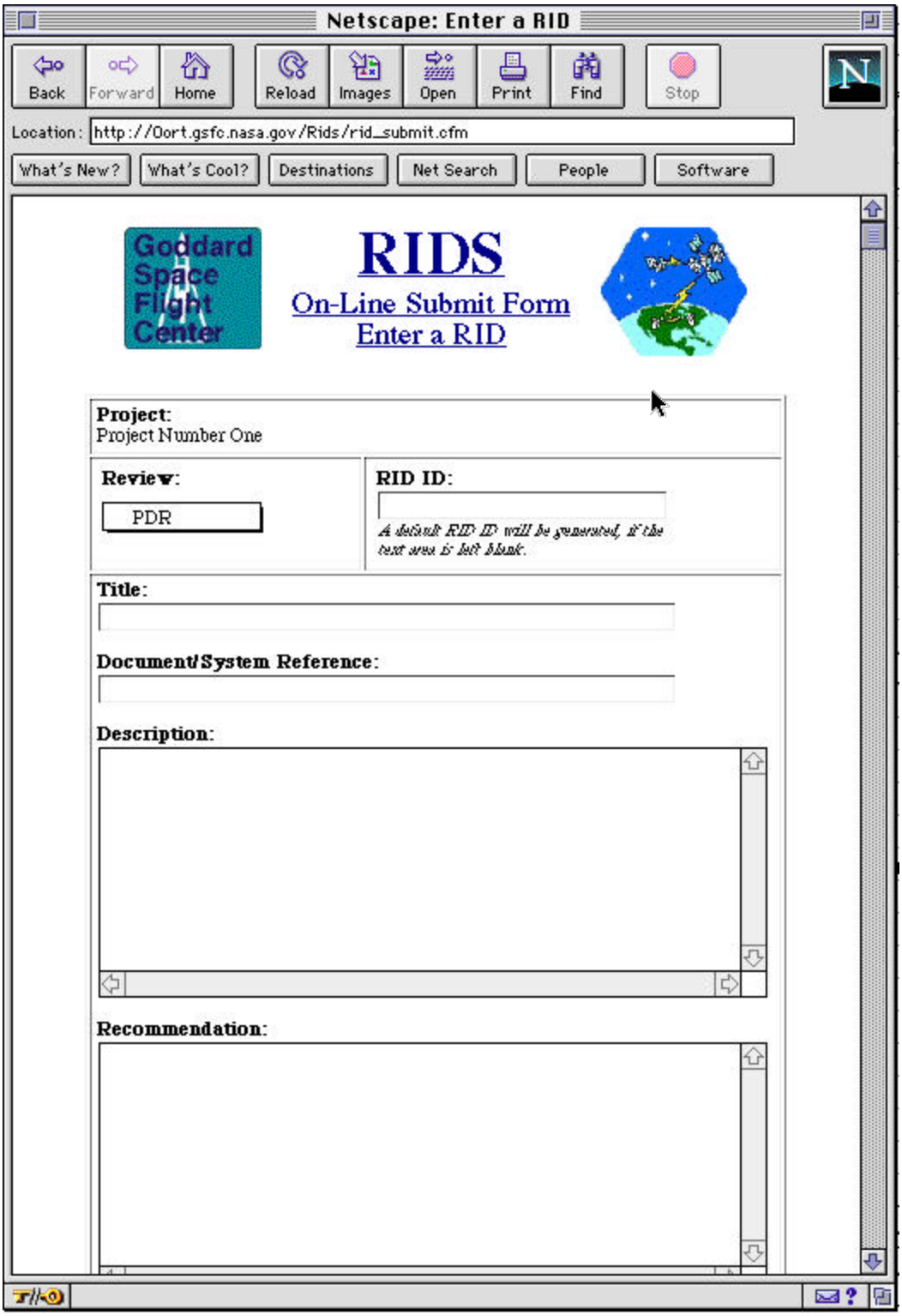

Figure 5: Web based RIDS form.

There is also a WWW interface to RIDS (Figure 5). Only the inputting of RIDS has been implemented on the WWW. This allows users to submit RIDS without having to install the RIDS client software on their local workstation (see below), other than a web browser. The web version also provides access to users for whom it would have been impractical to install the original RIDS software (due to geography) or for when a user who wanted to submit only a single RID and they found it too much trouble.

5. SYSTEM DEVELOPMENT

RIDS is a client-server application that operates on PCs running Microsoft Windows and on Macintoshes. RIDS was developed using custom and Commercial-Off-the-Shelf (COTS) software. The custom software is the RIDS application itself and the COTS software consists of Blyth Software's Omnis 7 in conjunction with Microsoft SQL Server.

Omnis 7 is a Graphical User Interface (GUI) package that was used to develop the front-end portion of RIDS. The front-end portion executes on client machines and provides the mechanism for users to interface with the RIDS. The SQL Server is a database management system used to develop the RIDS database and operates on the RIDS server machine. The function of the SQL Server is to manage the RIDS databases and respond to user queries issued by the client machines.

There are several COTS software packages used in the development of RIDS. The packages are: Omnis 7 by Blyth Software for the RIDS front end, Windows 3.1 for PC clients, Microsoft LAN Manager for PC clients to connect to the server computer, and Sybase Open Client/Mac TCP for Macintosh clients to connect to the server.

COTS software packages used for the server portion of the RIDS system are: Microsoft SQL Server to support the client/server architecture, Microsoft LAN Manager 2.1 for LACN connectivity, Microsoft LAN Manager services for Macintosh that allows Macintosh users access via Appletalk networks, Microsoft SQL Bridge that allows Macintosh users to connect to the SQL Server database on an OS/2 platform, and TCP/IP communications protocol to use SQL Bridge.

The WWW version of RIDS was created with Cold Fusion and Mircosoft SQL Server database. The WWW version and the OMNIS version of RIDS share the same database.

6. CONCLUSION

RIDS has been shown to save time and increase participation in the RID process. A large amount of time is saved by eliminating RIDs being sent on paper between people. RIDS also allows project managers to instantly know the status of all RIDs; creating a faster response thus reducing mission development time.

RIDS can be used on any large project to better organize discrepancies against a system being developed. There are many other government agencies and commercial companies that could use RIDS to cut their RID (or equivalent) processing time, resulting in decreased delivery times and costs.

Planned enhancements to RIDS includes linking RID data with the Requirements Generation System (RGS) and the Test Tracking System (TTS). This will allow users of RIDS to view requirement or test data online, as they create RIDs. Linking the three applications together will also enable managers to view outstanding RIDs and the requirements or tests they are attached to. This will give managers an immediate view of potential problems in a system.